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EXAMINER

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



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### **Final Office Action**

Claims 1, 3 and 7-15 are pending. No claim is allowed at this time. Amendments are entered. The RCE has been filed after the Board decision on 11/24/2008, where Examiner was affirmed.

### **Summary of this Office Action dated October 13, 2009**

1. Information Disclosure Statement
2. Copending Applications
3. Specification
4. 35 USC § 103(a) Rejection
5. Response to Remarks and Declaration
6. Conclusion
7. Communication

### **Information Disclosure Statement**

The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609.04(a) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO-892, they have not been considered.

### **Copending Applications**

Applicants must bring to the attention of the examiner, or other Office official involved with the examination of a particular application, information within their knowledge as to other copending United States applications, which are "material to patentability" of the application in question. MPEP 2001.06(b). See *Dayco Products Inc. v. Total Containment Inc.*, 66 USPQ2d 1801 (CA FC 2003).

### **Specification**

The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

### **Claim Rejections - 35 USC § 103**

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I. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 3 and 7-15 rejected under 35 U.S.C. 103(a) as being unpatentable over ANTONI-ZIMMERMANN et al.<sup>1</sup> and Applicants disclosure. See the entire document especially abstract of the invention, lines 3-67 in column 2; lines 1-67 in

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<sup>1</sup> US Patent 6,361,788

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column 3; lines 1-67 in column 4; examples and claims of ANTONI-ZIMMERMANN and Entire specification of the present invention.

ANTONI-ZIMMERMANN teaches the synergistic combination of 2-methylisothiazoline and various other active biocidal substances which embraces Applicant's claimed invention. The biocide composition that is improved in its components interact synergistically and therefore can be used in lower concentrations when used simultaneously, compared to the concentrations necessary in the case of the individual components. Thus, humans and the environment are exposed to less pollution and the costs of controlling harmful microorganisms are reduced. This object is achieved by the invention by means of a biocide composition having at least two active biocidal substances, one of which is 2-methylisothiazolin-3-one. The reference further teaches that biocide composition of the invention has the advantage that it can replace active substances used until now in practice, but suffering from disadvantages with respect to health and the environment, e.g., 5-chloro-2-methylisothiazolin-3-one (see lines 3-41 in column 2 and lines 33-38 in column 4). Moreover, the biocide composition of the invention can be produced with water as a favorable medium, if necessary. The addition of emulsifiers, organic solvents, and/or stabilizers is thus not necessary. Moreover the invention makes it possible to match the composition to specific goals by adding further active substances, for example, in the sense of an increased biocidal activity, improved long-term protection of the substances infected by microorganisms, improved compatibility with the substances to be protected, or improved toxicological or ecotoxicological behavior (lines 49-54, column 4).

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The reference further teaches biocide composition of the invention contains 2-methylisothiazolin-3-one and I, 2-benzisothiazolin-3-one, normally in a weight ratio of (50-1): (1-50), preferably in a weight ratio of (15-1): (1-8), in particular in a weight ratio of (4-1) (1-4). A weight ratio of 1:1 is particularly preferred. In the biocide composition the 2-methylisothiazolin-3-one and the I,2-benzisothiazolin-3-one are present in a total concentration of preferably 0.5 to 50% by wt, in particular 1 to 20% by wt, particularly preferred 2.5 to 10% by wt, in each case relative to the total biocide composition.

The reference further teaches that the biocide composition of the invention can be used in very different fields. It is suitable, for example, for use in paints, plasters, lignosulfonates, chalk suspensions, adhesives, photochemicals, casein-containing products, starch-containing products, bituminous emulsions, surfactant solutions, motor fuels, cleaning agents, cosmetic products, water circulating systems, polymer dispersions, and cooling lubricants, against attack by, for example, bacteria, filamentous fungi, yeasts, and algae. The reference teaches a list of some active biocidal compounds, which includes presently claimed biocidal compound such as benzyl alcohol, (claim 8), sorbic acid, benzoic acid, phenoxy ethanol, (claim 1) and many others. See column 3 and 4.

Specification discloses that all the compounds are well known biocides, see the entire document especially pages 1 and 2 where it teaches that the compounds are known.

Instant claims differ from the reference in claiming synergistic combination in specific ratios of the components.

It would have been obvious to one skilled in the art to prepare additional beneficial compositions for inhibiting synergistically the growth of microorganisms

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by using the teachings of the prior art to combine 2-methylisothiazoline and one or two active biocidal component.

The ratio of the two components to find the synergism is a routine expectation for the one who is skilled in the art because the biocide composition of the reference teaches combination of at least two active biocidal substances, one of which is 2-methylisothiazolin-3-one. The composition can contain one or more other active biocidal substances selected according to the field of application. Specific examples are listed in columns 3 and 4. Present invention does mention only one biocide 2-methyl-3-isothiazolone, however, the term "comprising" allows other components to be added. Other biocides listed in column 3 and 4 include the compounds which are presently claimed. The combination with zinc pyrithione and climbazole is not mentioned specifically in the prior art however, Applicants specification discloses that all the biocides are commercially available. All the compounds are individually known as biocides. The reference teaches the synergistic combination of 2-methylisothiazoline and various other active biocidal substances Therefore, using 2-methyl-3 isothiazolone for synergism would have been obvious to one skilled in the art at the time invention was made.

The motivation to prepare synergistic biocidal compositions and method of inhibiting microorganisms as presently claimed has been provided by the prior art. The discovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art. Synergism is one factor to be considered in the ultimate determination of obviousness of the composition.

The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not



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exclude additional, unrecited elements or method steps. See, e.g., *Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1368, 66 USPQ2d 1631, 1634 (Fed. Cir. 2003) ("The transition 'comprising' in a method claim indicates that the claim is open-ended and allows for additional steps."); *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim.); *Moleculon Research Corp. v. CBS, Inc.*, 793 F.2d 1261, 229 USPQ 805 (Fed. Cir. 1986); *In re Baxter*, 656 F.2d 679, 686, 210 USPQ 795, 803 (CCPA 1981); *Ex parte Davis*, 80 USPQ 448, 450 (Bd. App. 1948) ("comprising" leaves "the claim open for the inclusion of unspecified ingredients even in major amounts").

See *In re Kollman*, 595 F.2d 48, 201 USPQ 193 (CCPA 1979) (Claims directed to a synergistic herbicidal composition comprising mixtures of an herbicide known as "FENAC" with a diphenyl ether herbicide in certain relative proportions were rejected as prima facie obvious. Appellant presented evidence alleging unexpected results testing three species of diphenyl ether herbicides over limited relative proportion ranges. The court held that the limited number of species exemplified did not provide an adequate basis for concluding that similar results would be obtained for the other diphenyl ether herbicides within the scope of the generic claims.

See *Ex parte Quadranti*, 25 USPQ2d 1071 (Bd. Pat. App. & Inter. 1992) where it was held that "Use of materials in combination, each of which is known to function for intended purpose, is generally held to be prima facie obvious, and in instant case, use of combination of herbicides is so notoriously well known as

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to be capable of being taken by official notice; generalizations such as Colby formula are not particularly useful in determining whether synergism has been demonstrated, since formula inherently results in expectation of less than additive effect for combination of herbicides, since there is no evidence that such approach is considered valid by significant number of ordinarily skilled workers in relevant area of technology, and since it could be reasonably argued that in most cases, additive or better than additive results could be expected for combination of herbicides.”

“There is no single, appropriate test for determining whether synergism has been demonstrated for chemical combination; rather, facts shown in each case must be analyzed to determine whether chosen method has clearly and convincingly demonstrated existence of synergism or unobvious result”.

“Assuming *arguendo* that the differences in values presented are statistically significant, there is no evidence that they represent a true, practical advantage. In *re Freeman*, 474 F.2d 1318, 177 USPQ 139 (CCPA 1973); In *re Klosak*, 455 F.2d 1077, 173 USPQ 14 (CCPA 1972); In *re D'Ancicco*, 439 F.2d 1244, 169 USPQ 303 (CCPA 1971). Also, prescinding from the Colby formula test, which as we have already indicated is at best controversial and in our view probably invalid, there is no evidence that the differences are unexpected. In *re Merck*, 800 F.2d 1091, 231 USPQ 375 (Fed.Cir. 1986); In *re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed.Cir. 1985); In *re Freeman*, *supra*”.

In absence of any criticality and/or unexpected results presently claimed invention would have been *prima facie* obvious to one skilled in the art.

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In the light of the forgoing discussion, the Examiner's ultimate legal conclusion is that the subject matter defined by the instant claims would have been obvious within the meaning of 35 U.S.C. 103(a).

### **Data in the Specification**

The data presented in the specification was considered The data presented covers the combination of 2-isothiazole and benzoic acid (Table 1), citric acid (Table 2), sorbic acid (Table 3), 1,2-dibromo-2,4-dicyclobutane (Table 4), 1,3-dimethylol-5,5-dimethylhydantion (Table 5), hexoxyethanol (Table 6), zinc pyrithione (Table 7), climbazole (Table 8), and benzyl alcohol (Table 9). The data presented is for certain organisms. Further, the synergistic combinations have been taught by the prior art. The synergism as claimed would have been expected for reasons cited above.

### **Response to Remark and Declaration**

Applicants' arguments, filed on 6/19/2009 have been fully considered. Rejections and/or objections not reiterated from previous office actions are hereby withdrawn. The following rejections and/or objections are either reiterated or newly applied. They constitute the complete set presently being applied to the instant application.

Declaration filed on 6/19/2009 by Eileen F. Warwick has been considered. The declaration shows that some interactions between two herbicides are not synergistic therefore the combination of the amounts of the biocides will not be

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obvious. Applicant argues that combination of MI and benzoic acid for *S. aureus* or *A. niger* is not synergistic.

Examiner believes that since all the biocides are known it would have been obvious to one skilled in the art to find out which combination will be good for certain organism. It would be just a routine experimentation. Due to the different biological metabolism and conditions of the organism, the combination of the two biocides will not produce the same results under any known circumstances. It would be expected that some combination of biocides will be better for one organism than the other. There is no new concept or invention which is considered unobvious or unexpected over the prior art.

Applicant argue that the reference does not disclose combinations comprising 2-methyl-3-isothiazolone and zinc pyrithione, climbazole or citric acid, as recited in claims 7, 8 and 11, respectively. The combination with zinc pyrithione and climbazole is not mentioned specifically in the prior art however, Applicants specification discloses that all the biocides are commercially available. All the compounds are individually known as biocides. The reference teaches the **synergistic combination of 2-methylisothiazoline** and various other active biocidal substances. Therefore, using 2-methyl-3 isothiazolone for synergism would have been obvious to one skilled in the art at the time invention was made. Examiner respectfully disagree that claimed subject matter is not obvious over the disclosure of the references. The question is that whether or not the present invention would have been obvious at the time the invention was filed. Examiner believes that one skilled in the art would have been able to prepare the combinations as claimed because the any skilled in the art would expect that the when two active compounds which are known to have synergic results can be

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**combined in various ratios, some of them may be synergistic some of them may not be synergistic. It is an experimental observation and out of testing various combinations at different concentrations one can collect the data in the laboratory.** Examiner has shown that the synergistic combination of 2-methylisothiazolin-3-one and various other active biocidal substances is improved in its components and interact synergistically and therefore can be used **in lower concentrations** when used simultaneously, compared to the concentrations necessary in the case of the individual components.

Thus, humans and the environment are exposed to less pollution and the costs of controlling harmful microorganisms are reduced. This object is achieved by the prior art by means of a biocide composition having at least two active biocidal substances, one of which is 2-methylisothiazolin-3-one. The reference further teaches that biocide composition of the invention has the advantage that it can replace active substances used until now in practice but suffering from disadvantages with respect to health and the environment, e.g., 5-chloro-2-methylisothiazolin-3-one.

The transitional term "comprising", which is synonymous with "including," "containing," or "characterized by," is inclusive or open-ended and does not exclude additional, unrecited elements or method steps. See, e.g., *>Invitrogen Corp. v. Biocrest Mfg., L.P.*, 327 F.3d 1364, 1368, 66 USPQ2d 1631, 1634 (Fed. Cir. 2003) ("The transition 'comprising' in a method claim indicates that the claim is open-ended and allows for additional steps."); *< Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 USPQ2d 1608, 1613 (Fed. Cir. 1997) ("Comprising" is a term of art used in claim language which means that the named elements are essential, but

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"Assuming arguendo that the differences in values presented are statistically significant, there is no evidence that they represent a true, practical advantage. In *re Freeman*, 474 F.2d 1318, 177 USPQ 139 (CCPA 1973); In *re Klosak*, 455 F.2d 1077, 173 USPQ 14 (CCPA 1972); In *re D'Ancicco*, 439 F.2d 1244, 169 USPQ

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It has been decided by the Courts that “when a patent simply arranges old elements with each performing the same function it had been known to perform and yields no more than one would expect from such an arrangement, the combination is obvious”. KSR v. Teleflex, 127 S.Ct. 1727, 1740 (2007)(quoting Sakraida v. A.G. Pro, 425 U.S. 273, 282 (1976)). “[W]hen the question is whether a patent claiming the combination of elements of prior art is obvious”, the relevant question is “whether the improvement is more than the predictable use of prior art elements according to their established functions.” (Id.). Addressing the issue of obviousness, the Supreme Court noted that the analysis under 35 USC 103 “need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” KSR v. Teleflex, 127 S.Ct. 1727, 1741 (2007). The Court emphasized that “[a] person of ordinary skill is... a person of ordinary creativity, not an automaton.” Id. at 1742

In the present case composition as claimed would have been obvious to one skilled in the art at the time the invention was made.

In summary Examiner concludes that claims and specification does not provide any new concept or invention for the reasons cited above. To emphasize this point Examiner would like to refer to Applicants, Genetech, 108 F.3d at 1366 and Brenner 383 U.S. 519, 536, 148 USPQ 689, 696 (1966)” which states that “a

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patent is not a hunting license. It is not a reward for research, but a compensation for its successful conclusion” and “patent protection is granted in return for an enabling disclosure of an invention, not for vague limitations of general ideas that may or may not be workable.”

### **Conclusion**

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

### **Communication**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sabiha Qazi whose telephone number is (571) 272-0622. The examiner can normally be reached on any business day except Wednesday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krass Frederick can be reached on (571) 272-0580. The



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fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Sabiha Qazi/

Primary Examiner, Art Unit 1612